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Activity 5 Documentation

Setting up the server

```
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\3-building_images> docker run --rm -d --name apache -p 80:80 httpd:2.4
Unable to find image 'httpd:2.4' locally
2.4: Pulling from library/httpd
69692152171a: Pull complete
7284b4e0cc7b: Pull complete
3678b2d55ccd: Pull complete
ab492cf0b2a4: Pull complete
991f7f97a9d8: Pull complete
Digest: sha256:e4c2b93c04762468a6cce6d507d94def02ef4dc285278d0d926e09827f4857db
Status: Downloaded newer image for httpd:2.4
40242b5fa62678ec6d239a4ff3fa7f1a73f77d129bbc85d5e6c8f23c054a2bcc
```

```
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\3-building_images> curl localhost

StatusCode      : 200
StatusDescription : OK
Content         : <html><body><h1>It works!</h1></body></html>

RawContent      : HTTP/1.1 200 OK
                  Accept-Ranges: bytes
                  Content-Length: 45
                  Content-Type: text/html
                  Date: Tue, 18 May 2021 09:35:19 GMT
                  ETag: "2d-432a5e4a73a80"
                  Last-Modified: Mon, 11 Jun 2007 18:53:14 GMT
                  Server:...
Forms           : {}
Headers         : {[Accept-Ranges, bytes], [Content-Length, 45], [Content-Type, text/html], [Date, Tue, 18 May 2021 09:35:19 GMT]...}
Images          : {}
InputFields     : {}
Links           : {}
ParsedHtml      : System.__ComObject
RawContentLength : 45
```

Replace index.html with new content using ‘docker cp’:

```
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> docker cp index.html apache:/usr/local/apache2/htdocs/
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> curl localhost

StatusCode      : 200
StatusDescription : OK
Content         : <html><body><h1>It works in Docker!</h1></body></html>

RawContent      : HTTP/1.1 200 OK
                  Keep-Alive: timeout=5, max=100
                  Connection: Keep-Alive
                  Accept-Ranges: bytes
                  Content-Length: 56
                  Content-Type: text/html
                  Date: Tue, 18 May 2021 09:41:22 GMT
                  ETag: "38-5c286cac704c0..."
Forms           : {}
Headers         : {[Keep-Alive, timeout=5, max=100], [Connection, Keep-Alive], [Accept-Ranges, bytes], [Content-Length, 56]...}
Images          : {}
InputFields     : {}
Links           : {}
ParsedHtml      : System.__ComObject
RawContentLength : 56
```

A possible data problem

Changes we made previously are not retained after stopping the container

```
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> docker stop apache
apache
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> docker run --rm -d --name apache -p 80:80 httpd:2.4
6d489a7ad9a91563c6a28dbbb2255a21f9c65859c6d8536b3b8b03bdc7b18586
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> curl localhost

StatusCode      : 200
StatusDescription : OK
Content         : <html><body><h1>It works!</h1></body></html>

RawContent      : HTTP/1.1 200 OK
                  Keep-Alive: timeout=5, max=100
                  Connection: Keep-Alive
                  Accept-Ranges: bytes
                  Content-Length: 45
                  Content-Type: text/html
                  Date: Tue, 18 May 2021 09:45:06 GMT
                  ETag: "2d-432a5e4a73a80..."
Forms           : {}
Headers         : {[Keep-Alive, timeout=5, max=100], [Connection, Keep-Alive], [Accept-Ranges, bytes], [Content-Length, 45]...}
Images          : {}
InputFields     : {}
Links           : {}
ParsedHtml      : System.__ComObject
RawContentLength : 45
```

Managing volumes

```
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> docker volume ls
DRIVER      VOLUME NAME
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> docker volume create myvolume
myvolume
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> docker volume ls
DRIVER      VOLUME NAME
local      myvolume
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> docker volume rm myvolume
myvolume
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> docker volume ls
DRIVER      VOLUME NAME
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes>
```

Mounting volumes on containers

```
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> docker run --rm -d --name apache -p 80:80 -v httpd_htdocs:/usr/local/apache2/htdocs/ httpd:2.4
ndeffr5086c52083cd0702510c17b69801609852c445f405b41e3ee1f9
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> docker cp index.html apache:/usr/local/apache2/htdocs/
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> curl localhost
```

```
StatusCode      : 200
StatusDescription : OK
Content         : <html><body><h1>It works in Docker!</h1></body></html>

RawContent      : HTTP/1.1 200 OK
                  Keep-Alive: timeout=5, max=100
                  Connection: Keep-Alive
                  Accept-Ranges: bytes
                  Content-Length: 56
                  Content-Type: text/html
                  Date: Tue, 18 May 2021 09:53:24 GMT
                  ETag: "38-5c286cac704c0..."
Forms           : {}
Headers         : {[Keep-Alive, timeout=5, max=100], [Connection, Keep-Alive], [Accept-Ranges, bytes], [Content-Length, 56]...}
Images          : {}
InputFields     : {}
Links           : {}
ParsedHtml      : System.__ComObject
RawContentLength : 56
```

```
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> docker stop apache
apache
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> docker run --rm -d --name apache -p 80:80 -v httpd_htdocs:/usr/local/apache2/htdocs/ httpd:2.4
f5727083c173f8e6e2c5318d65073fcef2f697e92f5e1398d3cf9a8a337d903
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> curl localhost
```

```
StatusCode      : 200
StatusDescription : OK
Content         : <html><body><h1>It works in Docker!</h1></body></html>

RawContent      : HTTP/1.1 200 OK
                  Accept-Ranges: bytes
                  Content-Length: 56
                  Content-Type: text/html
                  Date: Tue, 18 May 2021 09:54:17 GMT
                  ETag: "38-5c286cac704c0"
                  Last-Modified: Mon, 17 May 2021 13:44:27 GMT
                  Server:...
Forms           : {}
Headers         : {[Accept-Ranges, bytes], [Content-Length, 56], [Content-Type, text/html], [Date, Tue, 18 May 2021 09:54:17 GMT]...}
Images          : {}
InputFields     : {}
Links           : {}
ParsedHtml      : System.__ComObject
RawContentLength : 56
```

```
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> docker stop apache
apache
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> docker volume rm httpd_htdocs
httpd_htdocs
```

Mounting host directories on containers

```
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> docker run --rm -d --name apache -p 80:80 -v $(pwd):/usr/local/apache2/htdocs/ httpd:2.4
8bf5b2a1162866a7538e7ef277c7bfb774e9803f0e2becd155edd825f330a
PS C:\Users\Krizzy\Documents\3rdYear2ndSem\CoE197\Week 10\ME8_Containerization_and_Docker\5-volumes> curl localhost
```

```
StatusCode      : 200
StatusDescription : OK
Content         : <html><body><h1>It works quite well in Docker!</h1></body></html>

RawContent      : HTTP/1.1 200 OK
                  Keep-Alive: timeout=5, max=100
                  Connection: Keep-Alive
                  Accept-Ranges: bytes
                  Content-Length: 67
                  Content-Type: text/html
                  Date: Tue, 18 May 2021 10:38:41 GMT
                  ETag: "43-5c2980a498fd9..."
Forms           : {}
Headers         : {[Keep-Alive, timeout=5, max=100], [Connection, Keep-Alive], [Accept-Ranges, bytes], [Content-Length, 67]...}
Images          : {}
InputFields     : {}
Links           : {}
ParsedHtml      : System.__ComObject
RawContentLength : 67
```